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AIR

AIRCRAFT USED IN ANTARCTIC EXPLORATION

Moscow GRAZHDANSKAYA AVIATSIYA in Russian No 1, 81 pp 14-15

[Interview with Grigoriy Aleksandrovich Avsyuk, Corresponding Member of the USSR Academy of Sciences, Interagency Committee on Study of the Antarctic attached to the USSR Academy of Sciences, by M. Guseynov]

[Text] The first Soviet scientific station was created 20 years ago in the eastern sector of the Antarctic. It was named Mirnyy in honor of one of the ships of the Russian fleet which was the first to reach the shores of the sixth continent. Planned investigations of the Antarctic by Soviet scientists began from this time. The 26th Soviet Antarctic expedition was dispatched in the fall of 1980 to the southern vicinity of the hemisphere. An international scientific council was created to develop the Antarctic research program. The branch of the council in our country is the Interagency Committee on Study of the Antarctic attached to the USSR Academy of Sciences, which is headed by Corresponding Member of the USSR Academy of Sciences Grigoriy Aleksandrovich Avsyuk. Our correspondent M. Guseynov requested Grigoriy Aleksandrovich to talk about the problems faced by investigators of the icy continent and about the scientific and practical significance of these investigations.

[Question] Grigoriy Aleksandrovich, what prompted investigators to inhabit the Antarctic--a mainland covered with ice and snow and a region of blizzards and extreme cold.

[Answer] In the unanimous opinion of scientists, one cannot imagine modern science without detailed and extensive knowledge of the Antarctic. For example, take development of the method of efficient use of the environment--one of the most important scientific problems of our time and of the coming century. Successful resolution of this problem is closely related to study of the sixth continent and its effect on the earth's climate and magnetic pole. After all, the Antarctic is not called "weather's kitchen" without cause. All atmospheric processes which determine the weather in the southern hemisphere are generated here.

The nature of the magnetic pole of our planet has also not been completely studied. To understand it without investigating the Antarctic, where the southern magnetic pole is located, is impossible. These investigations are of enormous

significance for the sixth continent itself, since magnetic exploration will permit more precise exploration of its minerals.

We still must find out what is hidden under the enormous mass of the Antarctic ice. The present assumptions on the resources of the continent are based not so much on discoveries as on the similarity of the geological structure of its parts to regions of the hemisphere that have been thoroughly studied. But the guesses based on analogs have frequently been confirmed by direct investigations. According to approximate estimates, many mineral deposits can already be regarded as promising at present.

It is interesting to trace how the concepts of specialists changed as the Antarctic was studied. Prior to 1957, its coal reserves were estimated at one million cubic kilometers. However, it emerged into first place in the world after discovery of the seams in the Theron Mountains. Further investigations provided the basis to assume that the interior of the icy continent contains more coal than the other continents taken together.

Soviet geologists have discovered iron ore deposits. According to the latest estimates, they are also some of the largest on the globe. Copper and nickel ore, lead, manganese, molybdenum and other minerals have been found in the western part of the continent.

The mineral resources of the Antarctic also include such valuable raw materials as diamonds for modern industry.

The world's largest deposit of uranium was discovered in the early 1970s in Australia, related to the Antarctic in geological history, which increases the probability of its existence in the Antarctic. Petroleum shows have been found on the continental shelf. The geological structures here are similar to the rich oil-bearing regions of Venezuela. According to the latest calculations, the potential resources of petroleum comprise approximately 6.5 billion tons and those of natural gas comprise more than four trillion cubic meters. This is approximately equal to all the oil and gas reserves of the United States.

One of the resources of the Antarctic is frozen fresh water. Approximately 80 percent of the world's supply is concentrated in the ice cover, the thickness of which is an average of two kilometers. True, delivery of the water from the Antarctic to the user is expensive and no one has yet managed to do this. Although, for example, Saudi Arabia is prepared to allocate enormous funds to tow icebergs to their own shores. This task can technically be totally achieved.

Moreover, the Antarctic is a storehouse of biological resources. Its sea is abundant with fish and the shores are populated by marine animals--seals, fur seals and sea leopards (it was this that at one time attracted the first conquerors of the sixth continent). However, even now the enormous food resources of the extreme south are inadequately and at times inefficiently utilized: the volumes of fish caught here are considerably lower than in the northern and tropical zones. True, the catch of fish and krill has increased appreciably during the past few years. International agreements have been adopted on protection of the animals inhabiting the islands and coast.

Exploration of the marine basins is continuing. Obviously, there are many valuable species of fish, catching of which is limited or generally not done, in the fauna of the Antarctic seas. The efforts of scientists of the entire world should create the basis in the near future for planned and efficient use of these resources. And who knows, perhaps the southern seas will become one of the main suppliers of food to our planet, the population of which will increase.

It should only be emphasized that to do this, specific regulations should be worked out which protect the nature of the southern continent--earth's only large international territory. These regulations should be obligatory to all countries.

[Question] In his book "Travels to the Antarctic," Academician K. K. Narkov wrote: "The main problem of the geography of the Antarctic is the origin of its appearance." But what can one say about the appearance of ground so densely covered with an armor of ice.

[Answer] The opinion of a solid shell is not quite accurate. Even at the beginning of the century investigators found sections of land free of ice. The largest territories not covered with ice were noted in the mountains of Queen Victoria Land. Another region with relatively large areas of bare sections of rock is the Antarctic peninsula and surrounding islands.

The most diverse theories have been advanced about the reasons for the occurrence of these oases in an ice desert. The first data about Ranger's oasis, in which warm lakes were found, embodied the hypotheses of underground coal fires, processes of strong radioactive decay or volcanic activity. However, later investigations did not confirm a single one of these hypotheses. The Soviet investigator Vladimir Bardin, comparing photographs made at an interval of 28 years, found that the oases and the surrounding glaciers are in equilibrium.

Although the causes of the phenomena have not yet been determined, the oases, like windows, provide the opportunity to observe the face of the icy continent, its relief and geological structure and the plant and animal world.

[Question] Development of uninhabited territories assumes primarily the presence of transport. The Antarctic investigators have probably used every possible means: from dogsleds to aircraft.

[Answer] Do not forget that development of the Antarctic was begun considerably later than the Arctic. Dogsleds are an obsolete mode of transport. They are used to a very limited extent. The modern Antarctic is a country of air and caterpillar track transport.

The English polar investigator R. F. Scott was the first to rise into the sky in a balloon in 1902. The era of aircraft began in the Antarctic a quarter of a century later.

Soviet expeditions have used aviation from the very beginning, both for internal and for transcontinental flights. During the first years aircraft delivered the wintering-over personnel to Australia. From here they were brought to the point of the wintering-over site by sea.

The first Moscow-Antarctic flight was made in 1961. IL-18 and AN-12 aircraft piloted by A. S. Polyakov and B. O. Osipov participated in it. The main task of the flight was to determine the possibilities of using heavy turboprop aircraft to deliver people and cargo to the Antarctic and to conduct scientific research work on the ice continent. Both aircraft successfully overcame the enormous distance, having expended a little more than 100 hours on the flight. The AN-12 made two flights from Mirnyy to Vostok station in the Antarctic.

Soviet pilots repeated the second flight two years later. This time the flight required 86 hours. Finally, an IL-18D aircraft reached the southern tip of our planet by the meridian route in only 26 flying hours in 1980.

The aviation of the ice continent is used both for transport and for research purposes. The aviation subdivisions of the first Soviet Antarctic expedition had four aircraft and two helicopters. The polar workers flew approximately 3,400 hours during the year of work, of which almost 600 hours were expended in the service of geologists, biologists and other specialists and also for aerial photography.

The crew of I. . . Cherevichnyy made the first reconnaissance flight to the internal regions of the continent in 1956 on an IL-12 aircraft during construction of Mirnyy village. A second aerial reconnaissance was soon carried out to the pole of inaccessibility. During the flights meteorologists probed the lower layers of the atmosphere and measured the depths of the ice cover.

Aircraft were also used to support tractor-sled trains, for example to search for crossings in regions with abundant cracks.

The work of aviation in the Antarctic continues year-round. Permanent air lines have been noted recently. Thus, aircraft fly from Molodezhnaya to Mirnyy and Novolazarevskaya and from Mirnyy to Vostok Station.

The mass ground transport of the ice continent is caterpillar track machines of the most diverse designations, beginning with low-power toboggan sleds with motor-cycle engines and ending with tractors and caterpillar track snow vehicles. Tractors with wide caterpillar tracks--swamp vehicles and all-terrain amphibians--are being used successfully in our expeditions. Heavy caterpillar track tractors and Khar'kovchanka snow vehicles specially equipped for the Antarctic are used to travel into the interior of the continent. These machines can truly be called snow cruisers. They can transport up to five tons of cargo in their cab and can tow a sled weighing up to 40 tons.

Established ground routes: Mirnyy-Vostok, 1,500 kilometers long, and Novolazarevskaya--the shore of the Antarctic ocean where ships unload annually, have been operating on the continent during the past decade.

[Question] Our readers would probably be interested in knowing how the polar workers now live and work under daily conditions.

[Answer] Permanent buildings of scientific stations and bases have appeared during the past decades on the ice continent. I feel that I should primarily talk about them.

The plague of all Antarctic settlements is snowdrifts. Unfortunately, no solution has yet been found to the problem of controlling them, which could be said to be successful in all respects.

One of the types of structures are buildings on pilings which have already been erected at Mirnyy. Their advantage is that the wind freely blows through the space under the structure and it remains undrifted for a long time. However, snow trains soon form behind the buildings and there is the threat of drifting of adjacent structures.

An attempt was made to avoid drifts by going under the snow (at the American station Byrd in 1962). Special excavating machines dug deep trenches and metal roofs were laid over them. However, the layer of snow over the roofs had increased by 10-12 meters within 10 years instead of the 3-4 meters anticipated. Scraped off by bulldozers, it formed an enormous hill which itself became a powerful snow retainer.

[Question] And what about food? The polar workers probably live year-round on imported products--canned goods and concentrates.

[Answer] The eating of the participants of polar expeditions now hardly differs from that to which they are accustomed at home and it is actually more nutritious. The kitchens at each polar station are equipped with the latest word in technology. Not only do they bake bread there, but they bake pastries as well. Even during expeditions, one room of the tractor-sled train must be allocated as a kitchen.

The main part of the provisions are imported into the Antarctic. However, there are also products of local origin here. I recall one case. The chief of Molodzhnaya N. A. Kornilov and the chief of the 13th Antarctic expedition A. P. Treshnikov brought several kilograms of cucumbers and tomatoes with them, bought en route in one of the African ports. The guests then saw with undisguised amazement on the holiday table, alongside their gifts (which incidentally suffered very much from the trip), fresh tomatoes and cucumbers--a crop that had just been taken from the local gardens. It turned out that approximately one quintal of vegetables had been grown during the long polar night! Cultivation of them at the polar stations is dictated not only by practical concepts. This was also a scientific experiment.

[Question] During four centuries our Antarctic investigators have collected an extensive amount of information. How do you evaluate their contribution to world science.

[Answer] The success of our scientists has exceeded all expectations. And this is no accident. At the very beginning of investigations, the complex Antarctic expedition undertook the daring trip into the interior of the continent, whereas most expeditions of other countries remained on the coast. Five Soviet stations were discovered in the internal regions of the continent. They were equipped at the very highest scientific and technical level. People with extensive practical experience in study and development of the Arctic were sent to the Antarctic; therefore, they felt at home in the ice of the Antarctic.

One can boldly say that investigations of the Antarctic by Soviet scientists are enriching the knowledge of mankind about our planet.

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AIR

BRIEFS

OPENING OF NEW ARCTIC STATION--The new scientific research drifting station "Severnnyy polyus" with the ordinal number 25 will open on the ice of the Central Arctic. Its organization has been entrusted to members of the air high-latitude expedition "Sever 33," which flew out of Leningrad today. The search for suitable ice floes sufficiently large and solid or icebergs sufficiently flat will be conducted in the eastern sector of the Arctic north of Wrangel Island. In addition, the scientists and specialists will carry out another broad program: they will perform landings on ice in more than a 150 places in the ocean, including the geographic North Pole. They will conduct comprehensive observations of the water mode, atmospheric processes, and the status of the Arctic's white shield of armor. The expedition will also carry out a crew change on the drifting scientific station "Severnnyy polyus-22." [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Feb 81 p 2]

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MOTOR VEHICLE

NEW NATIONAL MOTOR ROAD CLASSIFICATION OUTLINED

Moscow AVTOMOBIL'NYYE DOROZI in Russian No 12, 1980 pp 1-2

[Article by N. Khoroshilov, candidate of engineering sciences, Distinguished RSFSR Construction Worker and Honored Transportation Construction Worker: "New Classification of USSR Motor Roads"]

[Text] The new classification of USSR motor roads has gone into effect. It takes into account changes which have recently taken place in the composition and intensity of motor traffic and the increased role of motor transport in the country's economic and cultural life. The new classification is an aid in drawing up lists of roads as a function of their importance and in drafting plans for technical improvement and development of the network of roads, and it will make it possible to correctly distribute money and physical resources for road repair and maintenance, for road structures and facilities, etc.

The new motor road classification and the criteria for assigning roads to the relevant group on the basis of importance were developed by Soyuzdornii [State All-Union Scientific Research Institute of Roads and Highways] and cleared with the interested ministries and departments. All the country's motor roads have been subdivided into public roads and departmental roads. The public roads are roads on the inventory of road authorities of the union republics. These roads are subdivided on the basis of economic and administrative importance into national roads, republic roads, kray and oblast roads, and local roads. The departmental roads are roads on the inventory of enterprises and organizations. They are subdivided into access roads, operational roads, farm roads, service roads, patrol roads and other motor roads.

The criteria for defining national, republic, kray, oblast and local roads and also criteria for defining departmental roads contain a rather complete list of characteristics and specifications for objective justification of assigning roads to the list of a particular class of roads, which will make it possible to eliminate differences of approach to road classification from one union republic to another. On the basis of the standard criteria councils of ministers of union republics must adopt criteria for defining republic, kray, oblast and local roads, revising and supplementing the standard criteria to fit the respective republics, but in conformity with the general principles.

In accordance with the criteria for defining national roads, they are as follows:

- i. roads connecting Moscow with the capitals of the union republics and with the most important industrial and cultural centers of at least 500,000 population, as well as their bypasses and feeder roads (up to 25 km long as a rule) from national roads;
- ii. roads connecting capitals of union republics and the most important industrial and cultural centers with at least 500,000 population with one another;
- iii. roads connecting capitals of the autonomous republics and administrative centers of krais and oblasts of two or more union republics;
- iv. roads connecting health resorts, centers of large-scale recreation and tourism, athletic complexes, reservations, historical and cultural monuments, scientific centers and other facilities which have national importance, to the capitals of the union and autonomous republics and to administrative centers of krais, oblasts and rayons (in union republics not divided into oblasts) in which these facilities are located, to the nearest railroad stations, airports, and sea and river ports, and to national roads;
- v. roads connecting Class I and Class II airports and Group I and Group II sea-ports and riverports with the capitals of union and autonomous republics and administrative centers of krais, oblasts and rayons (in union republics not divided into oblasts) which they serve;
- vi. feeder roads (as a rule up to 15 km in length) from national roads to railroad stations and Class I and Class II airports, Group I and Group II sea and river ports, health resorts, centers of large-scale recreation and tourism, athletic complexes, reservations, historical and cultural monuments, scientific centers and other facilities of national importance;
- vii. roads comprising the USSR's transport connections with neighboring foreign countries and roads which are routes for trips by motoring foreign tourists.

In certain cases other roads may also be assigned to national roads by decision of the USSR Council of Ministers when there is proper technical-and-economic justification.

Standard indicators for defining republic roads and the other classes have been adopted by analogy with these criteria. It is evident that the administrative importance of the cities which the roads connect (capital of the USSR, capitals of the union republics, capitals of autonomous republics, centers of krais, oblasts, autonomous oblasts, rayons, etc.), as well as subdivision of the cities by population (500,000 or more; from 100,000 to 500,000; from 50,000 to 100,000; and from 10,000 to 50,000) were adopted among the characteristics of economic and administrative importance used to determine the importance of public roads.

Along with the characteristics given in the classification criteria, when roads are being classified, consideration must also be given to the amount of traffic and

technical characteristics of the roads with reference to the construction standards and regulations in effect.

In accordance with the criteria adopted for defining departmental roads, these roads are as follows:

i. roads within the grounds of industrial and other enterprises and organizations which they use for internal transport (including enterprises of the timber and mining industries and large industrial complexes in remote regions), as well as access roads to enterprises and organizations;

ii. farm roads of kolkhozes, sovkhozes and other agricultural enterprises and organizations connecting the central homesteads of these kolkhozes, sovkhozes and other agricultural enterprises and organizations with their branch departments, livestock-raising complexes, livestock projects, field camps, points for procurement, storage and primary processing of farm products and other agricultural facilities, and also roads connecting branch departments and livestock projects of kolkhozes and sovkhozes and other agricultural facilities to public roads and to one another;

iii. service and patrol roads along canals, pipelines, power transmission lines and other communication facilities and installations, and service access roads to hydraulic engineering structures and other installations.

Together with Soyuzdorproyekt (State Institute for Highway Planning and Surveying of the USSR State Industrial Committee for Transport Construction), on the basis of proposals submitted by the union republics, Soyuzdormst is to work out an overall list of national roads for the entire country and is also to draft a uniform procedure for measuring distances and numbering roads. It has been provided that in future the list of national roads will as a rule be revised once every 5 years in the year preceding the planning period.

In addition to revision of the list of national roads, councils of ministers of union republics must during 1981 revise and adopt lists of republic, kray, oblast and local roads in accordance with the criteria which have been adopted.

Provision has also been made for an overall survey, technical inventory and certification of roads during the upcoming 5-year period; this will mean a great deal of organizational and technical work both in the union republics and also in many departments. The Ministry of Transport Construction is to draft a relevant instruction on taking the technical inventory of roads, and the RSFSR Ministry of Highways, with the help of highway administrative agencies of other union republics, is to draft and approve in 1981 a standard instruction on the technical survey and certification of public roads. USSR Gosplan, the USSR Ministry of Justice and the Ministry of Transport Construction, with the help of councils of ministers of union republics and interested ministries and departments, will draw up the draft of the standard regulations of roads and highways and submit it to the USSR Council of Ministers in 1982.

Adoption of the motor road classification and performance of the survey, classification and certification of motor roads on a uniform basis, which make it possible to determine more precisely the length of the country's network of roads and all their principal technical parameters, will have great importance to the national economy.

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MOTOR VEHICLE

CLOSER INSTITUTE-INDUSTRY TIES

Moscow *Ekonomicheskaya Gazeta* in Russian No 50, Dec 80 p 14

[Article by V. Antropov, director of the Planning and Technological Institute of Automation and Mechanization in Motor Vehicle Construction, Chelyabinsk]

[Text] In the measures directed toward improving the economic mechanism particular attention is devoted to strengthening the ties between science and production and the rapid introduction of innovations. If we analyze the annual plans of the institutes as a function of financing sources we find that in many of the plans the studies based on economic contracts with the enterprises do not exceed forty percent of the overall volume of tasks performed. This support is not considered to be the major factor in the institute plans.

Moreover, it is often thought that orientation toward industrial economic contracts is equivalent to orientation toward "melkotem'e" [excessive diversification]. We believe that this conclusion is basically associated with the fundamental problems existing in the overall system of scientific institute activity planning.

However there is the positive example of the experience in cooperation between the Chelyabinsk Planning and Technological Institute for Automation and Mechanization in Motor Vehicle Construction and the Chelyabinsk Motor Vehicle and Trailer Plant.

Among the products of this enterprise the trailers for the powerful K-700 and K-701 tractor units occupy an important place. During the 10th Five-Year Plan the plant together with the institute has reconstructed this production line. The economic contract called for extensive design and technological changes in the mechanical assembly and paint lines. The specialists of ten divisions of the institute have developed new production lines and equipment.

As a result of the fabrication and introduction by the plant of the machine tools, mechanization aids, tooling and fixtures which we designed for the conveyORIZED mechanized lines there has been considerable increase of truck-trailer output and increased labor productivity. The economic effect is estimated to be a million rubles.

At the present time the institute and the plant are jointly improving the production of heavy-cargo trailers.

For more complete characterization of the work associated with the economic contract projects we should note that this approach in no way limits the initiative of the parties. Thus, financing by contract does not in itself give rise to "melkoten'ye" and does not contribute to the latter. We believe that "melkoten'ye" arises from "razmoten'ye," i.e., the lack of clear-cut specialization of the projects and the structure of the scientific organization.

We often hear of contradictions in the incentive programs for the performance of short-term studies. How should we handle remuneration for studies with a shorter cycle? It is believed that in planning such studies priority should be given to those operations whose circulation can be carried out among a group of plants rather than by a single plant. In this case high rates of technical re-equipping of the enterprises is ensured and the economic effect increases.

Other positive factors associated with the economic contract form of financing include the substantial responsibility of both parties for meeting the schedules and good final results of the operations. Along with this, the economic contract form of financing acts as a regulator in selection of the specific projects corresponding to the interests of the industrial plant. Properly organized monitoring of the scientific and technical level of the decisions makes it possible to develop effective equipment or technology.

At the present time most of the studies included in the plans of our institute are performed on the basis of economic contracts with the enterprises.

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MOTOR VEHICLE

GORKIY AUTOMOBILE PLANT PRODUCTION ASSOCIATION PROSPECTS

Moscow *IKONOMICHESSKAYA GAZETA* in Russian No 50, Dec 80 p 10

[Article by I. I. Kiselev, general manager of the Gorkiy Motor Vehicle Plant: "GAZ Production Association Prospects"]

[Text] Considerable space is devoted to the motor vehicle industry in the Draft of the Basic Directions for the Economic and Social Development of the USSR in the 1981-1985 Period and in the Period to 1990. Ivan Ivanovich Kiselev, General Manager of GAZ [Gorkiy Motor Vehicle Plant], one of the largest enterprises of this industry, describes the problems which will be resolved in the 11th Five-Year Plan by GAZ.

Essentially all of Kiselev's working experience has been associated with GAZ. Here he advanced from a junior production engineer to chief engineer and has been manager of the plant since 1958. Kiselev is a Member of the CPSU Central Committee, Deputy of the Supreme Soviet of the RSFSR, Hero of Socialist Labor, and recipient of the Lenin Prize.

The motor vehicle construction enterprises are called on to make their contribution in the new Five-Year Plan to the growth of the economic potential of the nation and expansion of the transport capabilities. The GAZ Production Association /PA/ must develop the production of more economical and reliable machines, primarily for agriculture. What are the many thousands of GAZ workers doing in this direction and what remains to be done in the immediate future?

Relying on Accumulated Experience

GAZ is a child of the first Five-Year Plans, the progenitor of the Soviet motor vehicle industry. The famed "ten-and-a-half" trucks started coming off the production line nearly 49 years ago--in January 1932.

In all, since the initiation of production the plant has produced over 100 models and modifications of vehicles of extremely varied purpose and application. Particularly much was done in the 9th and 10th Five-Year Plans to improve the products.

The GAZ-52, GAZ-53, GAZ-66 trucks and the Volga mid-size passenger cars were notable advances in the technical process of motor vehicle construction. In

implementing their production we intended to realize considerable economic advance in our PA and in those organizations which make use of our technology. The results achieved were not bad, although they could obviously have been better.

Let us take an index such as motor vehicle mileage prior to the first major overhaul. In comparison with 1975 this figure has increased on the average by 16.3 percent. This means reduction in the requirements for spare parts and the costs of repair operations as a whole and additional transportation of cargo and passengers. The service life of the GAZ-53 truck without serious "treatment" increased from 200,000 to 250,000 km, while the life of the GAZ-2401 passenger taxi increased from 300,000 to 350,000 km. Both vehicles have been awarded the State Symbol of Quality.

We shall cite some other figures characterizing the scales and rates of growth of our industry and in some degree the effectiveness of this industry. During the 10th Five-Year Plan many tens of thousands more vehicles of various modifications have been produced than during the 9th Five-Year Plan, and spare parts output has increased by one-third. We have increased the output of consumer and household goods by twelve million rubles. I wish to emphasize that the entire increase of output in the PA has been accomplished by improving labor productivity.

The economic conditions have improved thanks to the educational effort carried out among the personnel by the Party Organization, the effectiveness of the plant-wide labor competition program, the introduction in all the departments of profit-and-loss accounting, and the improvement of job standardization. During the five-year plan over 200 million kW-hours of electric energy, 700 thousand giga calories of heat, and about 150 thousand tons of coal-equivalent fuel have been saved.

The specific consumption of ferrous metals has been reduced by 8 percent. But the goal in this regard has not been reached. If the suppliers were to furnish us with more economical rolled profiles we could save 1800 tons of metal a year in the fabrication of wheel rims alone. We were able to improve the metal utilization factor ourselves by greater initiative in reducing scrappage associated with the plant technical services.

The campaign for more economic expenditure of the material and financial resources and better quality of all our work found concrete reflection in the PA plan for 1981 and in the draft of the 11th Five-Year Plan. We have the realistic possibility of more efficient use of electric energy, natural gas, metal, fuels and lubricants, paint and construction materials. Here the reserves lie primarily in the introduction of progressive technology and the advances in powder metallurgy, the use of precision casting and cold and hot upsetting of parts and the reduction of scrappage.

Equipping of the facilities with modern metering instruments (flow meters) will play an important role in strengthening the economic situation. To date there are far too few flow meters in use. Account of consumption, for example, of natural gas is made in general terms or very approximately for the individual units, work areas and departments. We hope that the corresponding ministries, and the planning and supply bodies will take all possible measures during the 11th Five-Year Plan to resolve this urgent problem, and not only just for GAZ.

Diesel Trucks in Production

The Draft Plan of the CPSU Central Committee talks of the need for accelerated development of diesel truck production. Plans have been made at GAZ to organize the production of a 4.5-ton diesel truck with trailer of the same capacity without interrupting the existing production line. These truck-trailers with three-way dump bodies are intended primarily for agriculture. We obviously must consider the specific requirements of agriculture. I have in mind primarily improved flotation, increased height of the sideboards, and a convenient technical servicing system.

According to calculations of the economists the use of 100,000 diesel tractor-trailers will make it possible to save in one year two million tons of fuel and halve the number of truck drivers (in terms of cargo transported). In addition, the transportation costs will decrease sharply. On the whole each truck-trailer promises an economic effect of about 10,000 rubles.

The primary facilities for producing the new vehicle will be established at GAZ using the existing utilities and in part the existing primary material processing facilities. It will be necessary to construct buildings for fabricating the diesel motors, brake equipment and chassis assemblies, a press shop, and also a non-ferrous casting shop and a forging shop. Plans are to arrange production of the crankcases, finned cylinders, flywheels, and other new castings at the Saransk Casting Plant, which is part of the GAZ PA. In addition, fabrication of some of the parts is being organized at our branches in Arzamas and Kanibadam. The fuel system will be supplied under a cooperative plan by the Yaroslavl Plant.

What is the situation today with the organization of this large-scale and complex new production program?

In the first quarter of 1981 we plan to complete together with the Yaroslavl Giprodvigatel' /State Institute for the Design of Engines/ Institute the preparation of the technical and economic justification. Then we must immediately initiate the preparation of the technical plan. Construction efforts should be initiated at the same time in order to accelerate the schedule.

Unfortunately, the situation with regard to financing of the initial construction and selection of the general contractor is not yet clear. We can only say that at the moment the direction has been defined but the details are not known: the specific construction schedules have not been established, the sequence of construction has not been defined and the material resources have not been identified. Here, along with our own considerable initiative and the assistance of Minavtoprom /Ministry of the Motor Vehicle Industry/ more specific participation of USSR Gosplan and USSR Gosstat in the solution of the problem posed is also required.

Still another major problem which we must solve in the course of the next five-year plan is significant increase of the output of spare parts for the GAZ vehicles. At the present time the spares output is only 53-55 percent of the established requirements; in 3-4 years the requirement will be fully satisfied.

No More Workers Required

In the 11th Five-Year Plan our association will increase its output by raising labor productivity. The basic means have already been selected--further technical reequipping of the facilities, effective forms of labor organization and pay, extensive diffusion of the experience of the winners of the labor competition.

In the association the level of mechanization of certain metallurgical processes and also of the machining of the primary components of the vehicle is quite high. During the 10th Five-Year Plan alone we have installed 107 automated production lines and much other advanced equipment. Nearly twice as much automated equipment will be installed in the 1981-1985 period, and in addition we will acquire about 3000 specialized numerically controlled machine tools. The introduction of various mechanisms and robots will also increase labor productivity markedly.

However, manual labor is still often dominant in the loading and unloading of raw goods and materials and in the transport and assembly of parts. And it is no secret that many temporary and sometimes unskilled outside workers, basically from the sectors receiving our vehicles, are still used to perform production operations. This is a serious deficiency in the organization of labor and production, which will soon be overcome thanks to measures now being taken. These measures include complete mechanization of entire work areas and shops.

Certification of the workplaces is being carried out throughout the association. Steps are being taken to provide the required tools and fixtures to facilitate operations and improve labor productivity. Some production lines are being rationally rearranged. Computer technology is being used not just for mathematical operations but also for production control and to eliminate work interruptions and establish precise work rhythms.

Transition to the team form of labor organization and pay offers a major reserve for labor productivity increase. In this regard we need to roll up our sleeves and get to work, utilizing all the positive experience available in the Kaluga and Leningrad Plants and in the Volga Auto Plant and other enterprises.

Today there are 5100 teams in the association, including nearly 50,000 workers. We should also note that nearly all the teams, particularly the large ones formed in recent months have been transferred to profit-and-loss accounting.

Just as the entire country, today the GAZ association personnel are "standing watch" in honor of the 26th CPSU Congress. The five-year plan with regard to labor productivity has been overfulfilled. One of every two vehicles coming off the production line is marked with the "honored pentagon (i.e. Mark of Quality)." The first production Volga-3102 vehicles will be coming off the line by the time the Congress opens.

9376

CSO: 1829

MOTOR VEHICLE

BRIEFS

GIANT MOBILE LOADER--This low-slung orange machine with its large wheels, capable of lifting 20-ton containers and stacking them, was designed at the Lvov Principal Special Design Bureau for Mobile Loaders. It is intended for operation at major seaports and railway junctions. The privilege of fabricating the first group of these giant machines was given to the Lvov "Avtopogruzchik" Production Association. The first two 20-ton machines recently emerged from the shop. They are equipped with a powerful diesel engine and an unusual side-mounted pickup unit. Assembly of several more machines of this same class is continuing. At the same time the experimental production department of the Principal Special Design Bureau is preparing for delivery of the first experimental-production group of loaders of the new model. Workers from the Armenian ERAZ (Yerevan Motor Vehicle Plant) Production Association, which has been assigned as the primary builder of the production series, are participating in the assembly of these units. The builders have also completed the assembly of another innovation--the model of a loader with a small diesel engine--this loader is capable of lifting and transporting 1000 kg loads. [Text] [Moscow IZVESTIYA in Russian 5 Dec 80 p 6] 9576

FINLAND SUPPLIES REPAIR SHOPS--Metex Andelslag has signed a contract with the Soviet firm V/O Avtopromimport for the supply of service stations for passenger cars for the caucasus. The value of the deal is almost 6 million markkaa and comprises three repair shops including buildings and repair equipment. The supplier of these service stations is a group of Finnish exporters: Naaraharju Oy, AB Finska Flaektfabriken, Are Oy, Hana Oy, Oy Electrolux AB, Tammerustic and Automac Oy. The service stations will go into service this fall. The remarkable thing about the deal is that this is the first time that such complete repair shops with the very latest technical equipment have been supplied from Finland to the Soviet Union. [Text] [LD101105 Helsinki HUFVUDSTADSBLADET in Swedish 5 Mar 81 p 18]

CSO: 3109

RAILROAD

ECONOMIST FAULTS PLANNERS, OTHERS FOR RAILROAD SYSTEM'S PROBLEMS

Moscow PRAVDA in Russian 9 Dec 80 p 3

[Article by Doctor of Economic Sciences, Professor Ye. Nesterov: "Rhythms of the Railroads"]

[Text] When I learned about the draft plan published in the press on "Basic Directions of USSR Economic and Social Development from 1981-1985 and in the Period up to 1990," I, as a railroad specialist, focused particular attention on the section concerning transport. In particular, this section states that we are faced with the task of "implementing technical retooling, providing for further increase of the carrying and traffic capacity of the railroads in the heavy freight traffic areas, and increasing the capacities of the railroad stations and junctions."

In recent years the country's railroads have been operating under great pressure. And seemingly it is not just a matter of the rapidly growing volumes of shipment. In my opinion, the cause of the difficulties also lies in the errors contained in the technical policy governing the development of the network of railroad lines.

For a long time the Institute of Complex Transport Problems attached to Gosplan USSR placed its chief emphasis on the construction of secondary railroad tracks and two-track additions and somehow "forgot" about the station tracks. Yet these very stations have now become the principal "bottlenecks." Because of their inadequate development, the trains are forced to lay over for hours in their runs.

In such large transport centers as Sverdlovsk, Chelyabinsk, Omsk, Rostov-on-Don, Gor'kiy and others it long ago became urgently necessary to effect a radical restructuring and to set up new marshalling stations. The Moscow people set a good example in this regard: with the opening of two new marshalling stations--in Orekhovo-Znayevo and Bekasova--they solved the problem of maintaining the flow of railroad cars through a zone beset with difficulties.

But this is still just a drop in the ocean. What is especially alarming is the fact that the construction of station tracks is lagging and the filling up of the stations with railroad cars is constantly increasing. And after all, there is a mathematical relationship between this quantity and the qualitative indicators of the work of the locomotive and car inventories. In proportion to the increase of clogging of the stations with cars, we get a falling off of such important

indicators as sector speed and average daily run of the locomotive. In the four years of the five-year plan the sector speed declined by 2.4 kilometers an hour and in the three quarters of the current year it is still .5 kilometers below the previous figure. During this time the average daily run of the locomotive fell off by 60.5 kilometers a day.

On a number of the most important railroads the congestion has reached critical proportions--14.5 cars per kilometer of station tracks. In the current year, according to the board of the Ministry of Railways, the railroads of the Urals, Siberia and the Far East had a considerable surplus of cars, a fact which gave rise to great difficulties with the plan for shipments. The average daily loading of cars in September, for example, was 10,000 cars less than it was in the same month two years ago.

In the last nine years the congestion on the station tracks increased by 35 percent. This must not go on indefinitely. I am not trying to lay it on thick. The management of transport is indeed no easy matter now. But I believe the situation can be rectified. This requires first of all building at least four times more station tracks than is being done now. Yet it is as if the scientists of the Institute of Complex Transport Problems are unaware of the real state of affairs; they are again suggesting only the building of secondary tracks and two-track additions. It is not a difficult thing to comprehend: the most economical other variant is to extend the station tracks and bring their length to 1,700-2,550 meters which is equal to the length of the trains which have been doubled or built. Then there will straightway emerge the possibility of accepting heavy-weight trains at the stations without any difficulty. In many of the industrially developed countries they are proceeding in precisely this way: they are lengthening the station tracks, rebuilding the marshalling stations, and accepting trains weighing 10-15 and even 20,000 tons.

This measure is not new; it has been discussed for about 10 years, and, as they say, is even now an issue here. The reluctance to develop the station facilities is due to the customary imaginary difficulty entailed in remodeling in the large cities. Here we can again cite the example of the Moscow center, where they have been able to put the station area to effective use. And this is also dictated by the imperatives of the situation. The heavy train is a long train. It simply will not be accommodated in many of the stations.

As we know, the volume of shipments is determined by two quantities: the number of cars and their average weight in tons. The daily loading is an important indicator of the work of the railroads. This indicator determines the procedure employed at the stations, the number of trains proceeding on the lines, the traffic capacity of the railroad runs and stations, and the amount of the capital investments required. What is the situation in this regard? In 1979 the average daily loading of cars dropped 2.2 percent below the 1975 figure. The excuse offered is that in January 1979 there were bitter frosts and this, it is said, had an adverse effect on the rhythm of work of the lines. In 1980 the winter was not so severe but nonetheless the average daily loading will not remain at last year's level and will fall off to some degree.

The capital investments in railroad transport are increasing. However, the yield from these investments is not always high. Things are going better with the other

indicator--railroad car load in tons. In the last four years it has increased by 6.5 percent, which has also engendered increased volume of shipments. This reserve did not require any capital investments but both the Institute of Complex Transport Problems and the transport division of Gosplan USSR "failed to take note" of it or to include it in the plans.

What concrete suggestions have been made in this connection? It seems necessary in the forthcoming five-year plan to take a different approach with respect to the development of the centers and stations. It is also necessary to improve the rolling stock and to make railroad cars, not on sliding bearings, but on roller bearings.

There is another important reserve in the transport work--regulating the shipment volumes. Their growth in our country has been unrestrained and they have now gotten out of control. Combine units (reapers, threshers, cabs and gear boxes), let us say, have been shipped from Perm, Minsk, Taganrog and other cities to the eastern part of the country and to Birobidzhan. There rice and silage harvesting combines are assembled (specialization!) and sent back to the west right up to Belorussia. Unfortunately, these are not the only instances. We could cite as another example the situation where tractors are sent from a Chelyabinsk plant to the Ukraine, a grader is attached to them there, and then they are shipped back but now in the capacity of a bulldozer.

Since Gosplan USSR and the ministries are in no hurry to proceed to an evaluation of the work of the enterprises with respect to normative net output, the situation is unchanged: the greater the volume of shipments the greater the volume of gross output in the industry.

There are enormous unexploited transport potentialities in reducing the average distance of the shipments. Since 1950 this distance has increased by 190 kilometers. The Ministry of Railways is not taking any decisive measures to reduce the distance of the shipments; this would cut down the volume of commodity turnover--the basic indicator of the department. What is taking place as a consequence is a lack of coordination even with the shipments of the fully centralized types of output, as for example, pit coal. In the 4 1/2 years of the current five-year plan the average distance of the coal shipments has increased 115 kilometers or 16.5 percent.

In Central Asia in the Angra coal field and in the region of the Fergana valley they are obtaining a large quantity of hydrogenous and mineral coal residues. It is being used most effectively at the electric power stations. But they are operating mainly with mazut. Where 1,111,400 tons of coal residues were delivered in 1975 from Kazakhstan to the Uzbek electric power stations, in 1979 the amount was only 199,500 tons. As a result, more than 2 million tons of inexpensive coal residues are being sent on a long "trip" on the Alma-Ata Railroad all the way to Ust'-Kamenogorsk and Zyryanovsk, a distance of more than 3,000 kilometers. And in the opposite direction--from the Omsk and Angarsk oil refineries--more than a million tons of mazut are also being moved thousands of kilometers.

In Gosplan USSR there is an interdepartmental commission for the rationalization of shipments. It would also bring all its power to bear against the wasteful cross

hauls. But the commission has been lax in enforcing its decisions and those of the government. Thus, the 28 December 1973 decree of the Union Gosplan and Gossnab ordered discontinuance of shipment of Raychikhinsk coal to the railroad stations of the Belogorsk-Takhtamygda sector of the Transbaykal Railroad. This justifiable directive has not been fulfilled for seven years. In 1969 Gosplan USSR ordered discontinuance of transport of Donetsk coal to the Kuybyshevskaya, Yaroslavskaya, Gor'kovskaya and the other oblasts which should be supplied with Kuznetsk coal. But this decision also has remained on paper.

We think that the planners, the suppliers, the executives of the sector ministries and, of course, the transport people should take a far more responsible approach to the task of resolving the problems entailed in regulating the shipments in the country. We have cited only the basic unexploited reserves of the railroads. There are in fact a great deal more of them. And it is essential that everything possible be done to put them into operation as soon as possible.

This is why I suggest that the section on "Development of Transport and Communications" be amplified with the following words: "To extend the station tracks. To regulate the delivery of freight via railroad transport by the curtailment of cross hauls and other inefficient shipments."

City of Moscow

7962

CSO: 1829

RAILROAD

LINES TO BE DOUBLE-TRACKED

Moscow GUDOK in Russian 15 Feb 81 p 3

[Article: "Dissecting Figures of the Draft Plan"7

[Excerpt7 While over the past five years new secondary tracks and double-tracked sections were extended by 3,905 kilometers, it is now being planned to construct more than 5,000 kilometers of them.

And while many of these sections, including the Panki to Lyubertsy section on the Moscow Railroad and the Novokuznetsk to Mezhdurechensk section on the Kemerovo Railroad, are not very impressive in length, they are located on important lines. For example, 24 kilometers of secondary between Novokuznetsk and Mezhdurechensk will become an important part of the now-forming Middle Siberian Railroad and will help to strengthen and create a new railroad exit from the Kuznetsk Basin. This will simplify the shipping of coal from the Kuznetsk Basin and the Kansk-Achinsk Basin and of other cargoes from regions of Middle Siberia.

The geography of the work to be done is immense. It is enough to say, for example, that the secondary tracks will be laid on the Bugul'ma line of the Kuybyshev Railroad and on the Achinsk to Krasnaya Sopka section of the Krasnoyarsk Railroad.

In the Eleventh Five-Year Plan it will be necessary to complete the modernization of many lines, work on which was started in the Tenth Five-Year Plan. This includes work on the Tayshet to Gidrostroitel' to Lena section and several others.

8927

CSO: 1829

RAILROAD

NEED FOR INCREASED EFFICIENCY IN GRAIN TRANSPORT STRESSED

Moscow SEL'SKAYA ZHIZN' in Russian 22 Nov 80 p 1

[Article: "Attention! The Grain Route"]

[Text] A fairly good crop was harvested this year by the farmers of Omskaya Oblast. A total of 1.57 million tons of grain was added to the state bins. Not all the grain could be accommodated under a safe roof. Thousands of tons of it are lying in bales. It would be more expedient to ship them out and to stow them in other places where there are reserve capacities and processing of them could be started. One of the destinations for the planned delivery of Omsk wheat is Chuvashiya. But the leaders of this autonomous republic report that the flour-grinding enterprises are on the verge of a stoppage; no grain is coming in from a number of eastern regions, including Omskaya Oblast.

What is the trouble? Why is grain lying under the open sky in inclement weather in one end of the country while at the other end they are waiting for it impatiently?

Unfortunately, there have been quite a few reports like the one coming in from Chuvashiya. A slow pace characterizes the transport of grain from the remote regions of Kazakhstan to Leningrad, Perm', Kirov and other cities of the northern and central parts of Russia. As a result, there have been large accumulations of grain at the Otkryabr'skiy and Kachirskiy enterprises in Pavlodarskaya Oblast, at the Presnovskiy enterprise in Severo-Kazakhstanskaya Oblast, and at the Kimpersayevskiy enterprise in Aktyubinskaya Oblast. In November tens of thousands of tons of grain have to be shipped from the largest grain area of the Transural region of Kurganskaya Oblast. Yet, as of 17 November not a single ton of grain has been delivered to Kaluzhskaya, Novgorodskaya and Vladimirskaya oblasts. The same situation is found in the case of the indicator for grain shipments from Krasnodarskiy Kray to Ivanovskaya, Pskovskaya and Vladimirskaya oblasts and to Komi ASSR. And this too when the country's procurement enterprises at this same time have thousands of tons of grain lying in bales.

The procurement people would be justified in making an actual claim against the railroad people, especially the collectives of the Tselinna and South Ural roads. They have certainly not been furnishing an adequate supply of railroad cars for the shipment of grain. Whereas, for example, on 16 November the entire railroad network had requisitions for 5,609 cars for the shipment of grain, the number supplied

by the transport people was only 4,107. On the Tselinna Railroad the number of cars provided on this date was scarcely half of the number required and on the South Ural Railroad it was 60 percent. The situation is evidence of the serious deficiencies on the grain routes. These deficiencies are arising because of the inefficient transport of covered cars. According to the procurement workers, the transfer of grain freight from one road to another is meeting with extreme reluctance.

At the same time, it cannot be denied that the procurement workers themselves have not always been efficient in their shipments. In Omsk also, at Omsk-Severnaya Station on 16 November six cars were idle for 24 hours waiting for loading with grain and in Kurgan there were 13 such cars. On the spur tracks of the enterprises of the Perm' oblast grain products administration in 10 months the layovers of railroad cars was two and a half times the norms. The situation is even worse at the stations of Bakharevka and Kungur. For the administration the losses of loading resources in this period amounted to 2,403 cars. How much additional grain could have been shipped if it were not for these layovers.

At times one can hear from the executives of the procurement organizations the argument that the layover norms should be examined because they do not always conform to the unloading conditions and to the capacities of the enterprises. There is no question that this subject is in need of a more profound analysis. But it is quite obvious that at a time when thousands of tons of grain have accumulated at dozens of stations and a number of elevators, grain which is in need of urgent shipment, it is necessary, not to dispute the established norms, but to take all possible measures to reduce the turnover of the rolling stock.

These measures include strengthening production discipline on the spur tracks of the grain receiving enterprises, more active introduction of mechanization facilities, efficient planning of shipments, and the shipment of grain in large batches, which makes it possible to ship it by express trains without reforming work and delays en route.

Distribution mobility of the locomotives and railroad cars, maximum reduction of all the loading and unloading operations, acceleration and increase of the supplying of railroad cars with due consideration for the real requirements of the chief grain zones--this is the task of the day. The accomplishment of this task must be at the center of the attention of the executives and collectives of the railroad services and the grain procurement organizations and the object of daily monitoring by the local party, soviet and economic organs.

7962

CSO: 1829

RAILROAD

BRIEFS

NEW ELECTRIC LOCOMOTIVES FOR BAM--The Novocherkass electric locomotive builders have won two important labor victories. The first experimental series of the powerful electric locomotives, the VL84, for the Baykal-Amur Railroad have been successfully tested; and the new billet stamping shop, with a production area of 30,000 square meters, has been put into operation. The new electric locomotive, whose production is to be increased according to the draft of the Basic Trends, was created at the Novocherkass Electric Locomotive Plant in accordance with designs developed by the All-Union Scientific Research Institute of Electric Locomotive Building. The new locomotive have been tested over a long period of time both on special testing grounds and on the railroads of the North Caucasus and Siberia. The electric locomotive builders have pledged to complete their work by the start of the 26th CPSU Congress. They kept their word ahead of schedule. [By V. Pomin, Rostov-na-Donu] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Jan 81 p 17 8927]

NEW RAILROAD COMPLETED--The final spike has been driven in the construction of the railroad line running between Malinovoye Ozero and Lokot', a distance of 110 kilometers. By joining two important railroad junctions, the new sector will relieve the Transsiberian Railroad and noticeably reduce the distance for delivering cargo. [By A. Torichko, Barnaul] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 28 Nov 80 p 17 8927]

COAL MINE USES NEW LOCOMOTIVE--A high frequency, noncontact electric locomotive has been successfully used at the Lutuginskaya Mine of the Voroshilovgrad Coal Association. Tests confirmed the efficiency of this type of electric transport. The new locomotive does not give off a spark while in motion. This is particularly important for work safety. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 Jan 81 p 17 8927]

IRTYSH-KARASUK SECTION COMPLETED--A state commission has approved the 210-kilometer section of the Irtysh to Karasuk electrified railroad for operation. This marks the completion ahead of schedule of the entire, more than 800 kilometer stretch of the Middle Siberian Railroad from Omsk to Barnaul. It provides an additional exit for coal and other cargoes from the Kuznetsk Basin to the Urals and the European portion of the Soviet Union, while significantly relieving the burden

on the Transsiberian Railroad. A solemn meeting at the Karasuk station was devoted to the labor success of the transport builders. For it was here that the two subelements of the Omsktransstroy and Altaytransstroy trusts met. The electrification of the new sector of the railroad was completed within 17 months rather than 22 months as required by previous standards. Nearly 10,000 supports for the contact network, 865 foundations, more than 2,000 kilometers of various cables, and 1,000 kilometers of contact wire were installed. Nine railroad stations and sidings were essentially reequipped anew. The builders worked closely with the railroad workers of the Omsk and Karasuk divisions of the West Siberian Railroad. [By E. Chernyshev, Omsk] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Jan 81 p 1/ 8927]

NEW TEM-3 STEAM LOCOMOTIVE--Operators from the Baykal-Amur Railroad participated with the designers of the association, Bryansk Machine Building Plant, in designing the new steam locomotive, the TEM-3. Tests that were completed on the railroad demonstrated the advantages of the TEM-3 over models now being manufactured. More than 120 locomotives bearing the trademark of the Bryansk plant are now operating at the BAM. A special service from the plant-manufacturer is performing technical maintenance on these locomotives. The information assembled by the service is used as a basis for designing new locomotives for the BAM and for the northern regions of the Soviet Union. The new model locomotive is equipped with a special system for electrically heating the engine, the batteries and the operator's cabin. This makes it possible to use the locomotive in severe climatic conditions. The use of special carriages has increased the reliability of the locomotive. [Text] [Moscow SEL'SKAYA KHIZN' in Russian 21 Nov 80 p 1/ 8927]

DONETSK MINE MONORAIL SYSTEM--A monorail system has shortened the distance from the shaft to the face for the miners of the Donetsk mine, the "Tsentral'naya." The monorail was created by specialists of the institute Dongsiprougloemash [Donetsk Planning and Design Institute of the Coal Machine Building Industry]. The train with a diesel locomotive can now go where previously several forms of transport were required. [Text] [Moscow SEL'SKAYA KHIZN' in Russian 21 Nov 80 p 1/ 8927]

ORENBURG OBLAST RAILROAD LINE--A new transport line extending from Orenburg to the Bashkir station Muraptalovo has appeared within the network of railroads in Orenburg Oblast. The through traffic of trains on the line has just started. On the day before at the Broda siding, where the Orenburg and Bashkir railroad builders met, holder of the Order of Lenin, foreman A. Barkhanskov drove a symbolic silver spike to mark the joining of the rails. [By V. Nikitin, from the editorial staff of the newspaper YUZHNYI URAL, Orenburg] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 16 Nov 80 p 1/ 8927]

NEW BORDER STATION--At the border station Chop, where the steel tracks of the Soviet Union, Czechoslovakia and Hungary converge, a new passenger station has been put into operation. In the spacious halls the ceilings are of aluminum panels and the floors are of granite and mosaics. [Text] [Moscow IZVESTIYA in Russian 16 Oct 80 p 6/ 8927]

TUNNELS NEAR LAKE BAYKAL--On the shore of Lake Baykal they have begun to build four railroad tunnels. Their total length will be nearly five kilometers. The construction of the largest of the tunnels will be done by the tunnelers of Detachment No 16. The detachment collective has decided to complete their work ahead of schedule, according to the secretary of the Party committee of the construction administration BANTunnel'sstroy /BAN tunnel construction administration/. A/ Podzarey. The vast experience of the builders serves as the security for this achievement. They successfully withstood their first test in the construction on the Tynda to Berkakit line, where they completed work on the Nagornenskiy tunnel one year ahead of schedule. The work is proceeding under difficult conditions: while tunneling the stones on the coastal cliffs crumble and flake. The tunnelers made a brave decision: to first drill the arch of the tunnel. A concrete solution is forced into the arch. Such an "overhang" withstands the sedimentary rock above the bottom hole. [Severobaykal'sk, Buryat ASSR] [Text] [Riga SOVETSKAYA LATVIYA in Russian 10 Oct 80 p 27 8927]

TYNDA-LARBA PASSENGER SERVICE--Regular passenger service on the 130-kilometer sector of the Baykal-Amur Railroad from Tynda to Larba has been opened ahead of schedule. The first passenger train left from Tynda today enroute to Chary. A reliable transportation link with the capitol of the BAN is now available to the residents of three more northern settlements--Kubykta, Khorogochi and Larba, where a production base for the builders of the railroad is being built. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 5 Nov 80 p 17 8927]

OKTYABR'SKAYA RAILROAD NEW SECTOR--The first work train has travelled along the new electrified 64-kilometer sector between the stations at Irsa and Volkhvostroy-1. The ahead-of-schedule completion of this important project was planned in the socialist obligations in honor of the 26th CPSU Congress. The builders and railroad workers kept their word. Teamwork and mutual labor made it possible for them to successfully complete their construction and installation work. Soon the new sector will be connected with the contact line that extends 67 kilometers from Gudovo Station to Irsa. This will provide contiguous train traffic on the electrified line between Moscow and Murmansk. [Text] [Moscow GUDOK in Russian 24 Jan 81 p 5/ 8927]

SMOLENSK-KURSK-SAVELOVO TRACKS JOINED--Yesterday at the Savelovskiy Passenger Terminal (in Moscow City) specialists from the Moselektrotyagostroy trust joined the steel tracks of the Smolensk-Kursk and Savelovskiy lines. The laying of this small branch, for which ten times as much other work was completed, is finished. All possible relays, a pedestrian tunnel, signal systems and the like were completed before the track laying. And now the Savelovskiy-Smolenskiy diameter has become a reality. Only finishing work remains to be done before the first train is allowed on the track. On the first electric train the residents of the northern areas of the capitol - Lianozovo, Degunin and Beskudnikov - will be able to travel straight to the center of the city, to the Belorusskaya Metro Station. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 31 Oct 80 p 37 8927]

PLANT PRODUCES 40,000 DIESEL LOCOMOTIVES--The Voroshilovgrad Diesel Locomotive Building Plant named October Revolution has manufactured its 40,000th locomotive. The powerful diesel locomotives bearing the trademark "VZOR" are delivered to ten countries throughout the world. /Text/ /Moscow EKONOMICHESKAYA GAZETA in Russian No 49, Dec 80 p 1/ 8927

LENINGRAD METRO TO BE BUILT--The Executive Committee of the Leningrad Council has approved the basic provisions of the general plan for the development of the Leningrad metro system. The sequence for designing, constructing and putting into operation of the new underground lines in 1981 through 1985 has been outlined. The plan calls for the creation of a unified system of suburb to city highspeed lines. The lines of the metro system in the outlying areas of the city will connect with the railroad stations and motor vehicle terminals. Transfer junctions will be sited on a more rational basis. The Leningrad metro network will consist of seven diametral, ring and two grid lines. /By V. Yurasov, GUDOK Correspondent, Leningrad/ /Text/ /Moscow GUDOK in Russian 22 Oct 80 p 4/ 8927

CSO: 1829

OCEAN AND RIVER

NEW SHIPS ON SOVIET, VIETNAM LINE

Moscow VODNYI TRANSPORT in Russian 20 Jan 81 p 1

[Text] The motor ship "Kapitan Smirnov" has left Odessa for Danang. This is the first vessel in a new series of gas-turbine powered ships (Type RO-60) on which the cargo can be rolled on and rolled off, with a hold capacity of 60,000 cubic meters. The "Kapitan Smirnov" has two younger sister-ships, the "Kapitan Mezentssev" and the "Inzhener Yermoshkin", which will join the Soviet-Vietnam line in the near future.

These three vessels are the Black Sea steamship line's largest capacity and fastest vessels. But it is not simply a matter of high speed and large capacity. These roll-on vessels are ships with horizontal loading methods. Automobiles, tractors, combines and other wheeled equipment can be loaded into the wide holds under their own power. Those same holds can accommodate hundreds of containers which meet international standards, other cumbersome and heavy equipment, plus various machinery of large size. All of this allows us to cut back sharply on loading-unloading time.

That is why this first roll on-roll off cargo vessel to be placed in the hands of the steamship line was assigned to the Vietnam line. The flow of cargo in that direction is particularly great. It is on this line that these vessels can be used to greatest effectiveness. The horizontal method of loading will do much to alleviate and to speed up loading operations in ports of the SRV: there will be no need to use port cranes in loading operations. Abroad ship are truck-tractors and drivers; it is they which will unload cargo on Vietnam piers.

"This trip," states Captain Guriy Grin'ko of the "Kapitan Smirnov," "We have taken aboard ship 'mas' dumptrucks, buses, trucks and the attachments to them, excavators, plus a large quantity of metal. The containers placed aboard ship hold a great variety of cargo for the Vietnamese people. Once it has unloaded its cargo in Danang, the 'Kapitan Smirnov' will head for Japan to pick up passenger vehicles for ports of the Red and Mediterranean seas. After it has unloaded them, the ship will return to Odessa to pick up more cargo for Vietnam."

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OCEAN AND RIVER

STRENGTHENING BUSINESS COOPERATION

Moscow VODNYI TRANSPORT in Russian 5 Feb 81 p 1

[Article: "Strengthen Business Cooperation"]

[Excerpt] In the first month of the new 11th Five-Year Plan the work of most of the transportation centers has been characterized by a notable increase in the volume of economic freight processed and smoother freight-handling operations. In difficult weather conditions freight processing has been somewhat improved by the use of pneumatic equipment. This work was organized most efficiently in January at the Novorossiysk, Tuapsi, Poti, and Batumi transportation centers.

There was also improvement in the use in port of the river fleet to serve as lighters for large ships. This made it possible to increase the workload of the shallow ports in the Black Sea-Azov basin and the ports of the Danube. Efforts were made to attract additional workers to the ports, including workers from the frozen river ports of the RSFSR Ministry of the River Fleet and the Ukrainian Main Administration of the River Fleet.

To even out the workload of the ports steps were taken to improve operational control of the assignment of ships with general cargoes both among basins and within basins. Specifically, the load on ports of the Azov Steamship Line, including the port of Zhdanov, the ports of the Murmansk Steamship Line, and Far Eastern ports was slightly increased.

The ports of the USSR Ministry of Fishing are giving significant help in speeding up the delivery of cargoes to their destination. Specifically, this refers to the ports of Leningrad, Ventspils, Kaliningrad, Klaypeda, Il'ichevsk, Kerch', and Novorossiysk. This work should be continued and intensified in February.

The ports continued to receive new loading machinery and equipment in January. In particular, the ports of Odessa and Il'ichevsk received highly productive ship-borne cargo-transferring units. When they are put into use there will be a significant increase in the intensity of processing sea-going and river ships and railroad cars.

Work to unload railroad cars improved noticeably in the second half of January. They were received and processed without problems in the transportation centers of the Far East and most of the ports of the Baltic and Black seas. At the same time, the organization of work to unload railroad cars at the ports of Il'ichevsk and Odessa remained unsatisfactory because the Black Sea Steamship Line failed to deliver ships on time and there were serious problems organizing the work of these transportation centers to provide railroad cars.

More empty railroad cars were delivered to the seaports last month, which made it possible to increase the amount of bulk, bagged, refrigerated, and other general cargo to customers.

But not all the transportation centers shipped the planned amounts of cargo in January, and this led to an increase in cargo held over. This situation developed in Zhdanov, Vyborg, Tallinn, Rani, and Izmail. There were serious problems at the Il'ichevsk and Odessa transportation centers organizing the shipment of important articles to their destinations. This indicates that the managers of these centers still have not eliminated the problems which were the subject of discussion at the 22 May 1980 session of the Central Coordinating Commission of the transportation ministries.

The shortcomings mentioned above and a few others that occur in the work of the transportation centers arouse justified criticism by freight receivers and foreign trade associations. In some cases the situation is made worse by failure of the managers of the Sevmorflot (Northwestern Fleet), Yuzhflot (Southern Fleet), and Dal'flot (Far Eastern Fleet) GKHO's (possibly state shipping associations) to regulate the workloads of the ports properly. It is urgently necessary to detail the specialization of certain ports, above all the ports of the Black Sea-Azov basin.

The fact that some transportation centers, specifically Rani, Nakhodka, Zhdanov, and Tallinn, still are not following the normative documents on operational records of railroad car processing ratified by the transportation ministries exactly is a significant impediment to an objective evaluation of the situation with delivery and processing of railroad cars. For this reason, the reports submitted today by the managers of these ports and railroad stations to the ministries concerning the number of railroad cars requested, delivered, and processed are contradictory and confusing. Serious violations of established procedures for record-keeping and processing railroad cars being loaded occur at the Vyborg transportation center.

These facts illustrate that certain transportation centers have managers who, while reporting that they have switched to work on mutually coordinated continuous schedule-plans, in reality have taken a formalistic attitude toward this important management tool. They have not studied and are not fully applying the normative documents ratified by the four transportation ministries.

To insure fulfillment of planned volumes for transshipment of all types of cargo in February the steamship lines, the All-Union Association for Chartering Foreign Tonnage, the GKHO's, and the Administration of Fleet and Port Operations of the Ministry of the Maritime Fleet must improve the

quality of operational decisions on port workloads taking into account the actual situation in all the transportation centers. They must continue work together with the Ministry of Railroads and the cargo recipients to improve the use of the ports of the Far East, Murmansk, Arkhangel'sk, and the Azov Steamship Line (in particular the port of Zhdanov), as well as all shallow-water ports.

The port administrations, steamship lines, GKHO's, the Administration of Fleet and Port Operations, and organizations of the USSR Ministry of Foreign Trade should step up work to employ motor vehicle transportation hauling cargo out of the ports. This work must be put on a planned basis. Business cooperation with employees of the fishing ports and administrations of river steamship lines must be constantly broadened and strengthened. Given the constantly growing volume of shipping and transshipment of cargo, improving the use of every dock, every loading-unloading area, every machine, and every port worker is a crucial reserve.

The coordinating commissions of the oblast and city executive committees of Soviets of People's Deputies, the coordinating councils and groups of the transportation centers, and the managers and leaders of ports, steamship lines, GKHO's, administrations of the Ministry of the Maritime Fleet, and the party, trade union, and Komsomol organizations of related enterprises of the transportation sectors should make every effort to solve this very important problem.

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OCEAN AND RIVER

IMPORTED CARGO DAMAGE ASSESSMENT PROCEDURE REFORM REQUESTED

Moscow VODNYI TRANSPORT in Russian 20 Jan 81 p 2

[Article by Yu. Pan'kov, chief of the Cargo Control Division under the Transport Fleet Operation Service (SOTF) of the Azov Maritime Steamship Line: "From the Government's Position"]

[Text] The article "Dual Servicing" published in the 14 August 1980 issue of VODNYI TRANSPORT was correct in raising the question of improving fleet services. We are particularly upset about the question of control over loading and unloading operations.

Actually, the existing system of transmitting cargoes to ports is in need of review. It is no secret that, at the present time, port representatives and the Transport Fleet Operation Service (SOTF) frequently cannot arrive at a common formula for writing up damage to cargo and packing. Thus, for example, in the receipt of imports, the port tallyman tries to write up the amount of damage done to packing as greater than it actually is, thus seeking to insure himself against the further possibility of damage to cargo during its handling in port. At the very same time, the SOTF tallyman, as the representative of the ship (and not without some pressure from the ship's administration) seeks to go off in the other direction by keeping to a minimum his list of damage done to packing.

As a result, conflicts arise between port and ship, a situation which reflects both upon the drawing up of cargo documentation as well as upon the quality of cargo receipt and transmission. Moreover, this dual accounting promotes a feeling of complacency and frequent instances in which both participants end up being in error.

However, before we review the question of shifting over to a single system of accounting, it is necessary to analyze the existing form for the direct transmission of cargo and to see how it is working.

The fact is that existing regulations and instructions of the RSFSR Ministry of the River Fleet regulate the duties and obligations of the SOTF only in regard to the receipt and transmission of cargo within the River Fleet Ministry. Normative documents on the mutual relations between workers of the SOTF cargo control division and of port railroad stations still do not exist, although the actual transmission of cargo from ship to railroad is accomplished by the tallymen of our service.

Officially, port railroad stations do not recognize the SOTF as a juridical entity in surrendering freight to it and while accepting freight from SOTF tallymen. From this arises the possibility of all kinds of misunderstandings in regard to the system of accounting, of formulating documents, and of determining the quantity of freight loaded onto railroad cars. Analogous technology leads to abuses on the part of the railroad and to railroad cars standing idle due to discrepancies over freight quantities.

In improving this system of control, it is necessary, first of all, to coordinate the work of all contiguous sub-units taking part in the transshipment process, and to work out general instructions governing the mutual relations between them.

In our opinion, participation in accounting for cargo by a neutral party which has been given the corresponding legal rights and authority will eliminate the shortcomings which we have indicated. But this will only be effective if the representative of the service ("Mortranskontrol'") defends not departmental interests (those of the steamship line, port, or railroad) but the interests of the state. We think, therefore, that in order to exclude departmental pressure, it is necessary to separate this service from the steamship line and to subordinate it directly to the USSR Ministry of the Maritime Fleet or to the USSR Ministry of Foreign Trade.

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OCEAN AND RIVER

DETERMINATION OF WAGES FOR RIVER FLEET WORKERS

Moscow VODNIY TRANSPORT in Russian 24 Jan 81 p 3

[Text] How is the system of wage regional regulation being carried out? What are the advantages which have been established for our river fleet workers toiling in Siberia, the Far East, in the Urals, and in the Northern regions of our nation? These are the questions which interest our readers N. Odintsov (Kamsk Steamship Line), V. Vasil'yev (Volga Tanker Line), Ye. Dmitriyeva (Bel'skiy Steamship Line) and many others.

Chief Economist G. Ye. Alekseyev of the Administration for the Organization of Labor and Wages under the RSFSR Ministry of the River Fleet responds to their questions.

Regional regulation of wages provides for the creation of conditions under which the average earnings of persons working in regions with unfavorable natural-climatic conditions, regions which do not have enough workers, should be higher than those for workers in similar jobs in our Central and Southern regions. With this aim in mind, regional differentials determining the extent of increase have been added to the wages of workers at enterprises and organizations located in the Northern region of our nation, in Siberia, in the Far East, in the Urals, and in Central Asia.

Regional differentials do not constitute new wage scales. They are applied to all types of wages except for increments for work in regions of the Far North and in areas analogous to such regions and to our European North, for personal wage increments, for money prizes won in All-Union (Republic) socialist competitions, for one-time money awards not covered by the system of wages, and for one-time monetary awards for longevity.

At enterprises which have been converted over to the new system of planning and economic stimulation, the regional wage differential is added to bonuses awarded from material stimulation funds. It does not apply, however, to awards based on the results of the work of the enterprise for the year or to material aid funds.

Regional differentials apply to wages which do not exceed 300 rubles per month. If monthly wages exceed that amount, the wage differential applies only to the first 300 rubles.

At river transport enterprises located in the Urals, at the present time, the regional wage differential applies only to the wages of workers employed in production; it does not apply to the wages of housing-communal services organization workers, to employees of institutions for children, or to other workers in non-productive spheres of activity. A CPSU Central Committee draft plan entitled "Main Trends in the Economic and Social Development of the USSR for 1981 Through 1985 and for the Period Through 1990" being prepared for the 26th Party Congress provides for an improvement in the system of regional wage differentials. It is to be applied to the Urals and to certain regions of Kazakhstan, to the wages of workers and employees not previously covered by the system.

Regional differentials apply to actual places of work, regardless of the location of the enterprise employing the worker. Here we must pause to consider certain particulars in the application of this procedure in determining regional wage differentials for the crews of river fleet vessels. In a number of river basins--Lena, Yenisey, Irtysh, West Siberian, Amur and others--many vessels are operated by lines which cover several regions, each of which has its own wage differential. What we do in this case is to figure the average increased differential together with the planned work time for each of these regions.

Thus, for example, the planned time for the trip of a diesel motor ship is 300 hours, with 100 hours of that in a region where a 1.2 differential is applied to wages, while 200 hours are spent in a region where the wage differential is 1.3. The average increased wage differential, therefore, will be 1.27 (100 times 1.2 plus 200 times 1.3) which equals 300.

Where river fleet vessels ply the open seas, what we do is to add to the wages of the crews of those vessels the regional differential established in those regions for maritime fleet crews.

During a navigation period, when vessels undergo navigational repairs or technical servicing without the ship being taken out of operation, as well as during the period when the vessels are placed under winter status, we apply to the wages of the crews the regional differential established for the line which the vessel was serving immediately before it was put up for repairs, technical servicing or placed under winter status.

During the time when ship crews are utilized between periods of navigation, the salary paid to them for accrued vacation time (leave) will include the regional wage differential which is in effect at the place where leave is offered them. In so doing, what must be kept in mind is the fact that such leave time, as a rule, is spent at the place where the enterprise ship's owner is located, or at the location of the enterprise to whom the vessel is entrusted for technical and economic servicing.

For the performance of loading-unloading operations as well as for work connected with tidying up ships following unloading, wages are paid crew members by the ports in which this work takes place and includes the regional differential established for the wages of the workers at the given port.

There are certain categories of workers in our river transport whose regular work elapses en route or is of a mobile character (captains-instructors, mechanics-instructors, thermal engineering party workers, and others). Added to their wages, as well as to the wages of the crew, is the wage differential in effect at the place where they do their actual work.

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